

Product brief

EVK ALPHA G100

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Product specifications and descriptions are subject to change without prior notice. © EVK 2022

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EVK ALPHA G100

Real-Time Processing Platform for Spectral Imaging

- Single-input embedded computing platform for classification of hyperspectral data
- GigE Vision compliant
- Supports EVK HELIOS hyperspectral imaging core cameras

Description EVK ALPHA G100 is a real-time, embedded processing platform for classification of hyperspectral data. Together with an EVK HELIOS hyperspectral imaging core camera, the system supports up to 100 material classes for identification of material types in industrial sorting and process-monitoring applications.

The EVK ALPHA G100 features an optimized spectral imaging system for a single, GigE Vision / GenICam compliant hyperspectral imaging sensor. The platform supports all EVK market-proven data processing functions for qualitative analysis such as CLASS, EC3 and Combined Features, as well as EVK quantitative chemical imaging algorithm QCI.

- Key features**
- Real-time, embedded PC Platform
 - GigE Vision GenICam compliant input/output data
 - Supports EVK CLASS, EC3, CF and QCI algorithms
 - Compact form factor
 - Rugged industrial design
 - Temperature Range from 20°C to 60°C
 - Suitable for in-line classification, metrology, and sorting (in combination with EVK HELIOS hyperspectral camera family)

- Client benefits**
- Real-time, spectral imaging edge computing platform for in-line operations
 - Supports up to 100 material classes
 - Rugged design for applications in industrial sorting and monitoring

- Typical applications***
- Removal of foreign bodies in food processing industries
 - Material type determination in plastic sorting
 - Measurement of material quality in waste management
 - In-line quantitative analysis of analyte concentrations in production processes

* In combination with EVK HELIOS hyperspectral imaging cameras

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Experts in industrial imaging

Technical Data

Key technical specifications - Spectral imaging

Supported Cameras	EVK HELIOS EC32
Camera Interface	GigE Vision (Ethernet connector)
Supported Protocols	GigE Vision compliant
Supported Output Format	Mono8, Mono12, RGB8
Nr. of chemical metrology channels	12
Programming Interface	REST API, GenICam
User Interface	EVK SQALAR software tool

Supported classification algorithms

CLASS/100	Allows separation of different materials in material classes. Up to 100 material spectra is supported by the algorithm.
EC3/3	Transforms spectral information into color information. Typically used for determination of subtle chemical differences in inspected product.
CF	Combines features and delivers sorting decisions based on a relation between physical and chemical features for a good or bad product.
QCI/3	Allows quantitative analysis of up to 3 chemical constituents, measuring concentration levels of chemical compounds in a product.

Key technical specifications - EVK ALPHA computing platform

Power	DC-in 9 - 36V x1 for 3-pin Terminal Block
Operating Temperature	-20°C ~ 60°C, acc. To IEC68-2 with 0.5 m/s AirFlow
Storage Temperature	-40°C ~ 80°C
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Size (W x H x D)	250 x 143 x 51.5 mm with bracket
Weight	2.0 kg
Mounting	Wallmount
Certification	CE/FCC class A

Connectors

Ethernet	RJ-45 x 2 for 1Gb/2.5GbE LAN
Display Interface	HDMI 2.0 x 2
USB	USB Type-A x 3 for USB 3.2 Gen2, USB Type-A x 1 for USB 2.0
Other I/O	DB-9 for RS-232/422/485

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Order information

ALPHA G100 computing platform

Product	Part Number	Functionality	Availability
ALPHA G100 CO	HGX-22033	Class Only	Available
ALPHA G100 CS	HGX-22034	Class + Sort	On demand
ALPHA G100 SO	HGX-22035	Sort Only	On demand

EVK products in combination with EVK ALPHA G100

Product	Part Number	Description
HELIOS EC32	AGX-22008	320px Hyperspectral-Imaging Core Camera
SQALAR	LIZ-004x_XXX	Demo / Annual / Perpetual License for Classification Modeling Software
48kGPIO Modbus	AGX-18023	GPIO Board - 48 Channels
48kDOUT	BKE-10001	Data Out Driver Board - 48 Channels

For more information contact

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